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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,705	09/27/2000	Gerhard Reichert		6878

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Fred Zollinger III
6370 Mt. Pleasant Ave, NW
PO Box 2368
North Canton, OH 44720

EXAMINER

GOFF II, JOHN L

ART UNIT PAPER NUMBER

1733

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/670,705	Applicant(s) REICHERT, GERHARD	
	Examiner John L. Goff	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 6, 14-17, 19 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 14-17, 19 and 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/5/05 has been entered. The previous objections to the claims have been overcome.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Claims 1-3, 5, 6, 14-17, 19, and 25-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claim 1 requires polyisobutylene or hot melt butyl as the primary sealant and of the type that is "not cured". Independent claims 19 and 26 require hot melt butyl as the primary sealant and of the type that is "not cured". While the specification does disclose the general use of hot melt butyl or polyisobutylene (Page 11, lines 1 and 2) as the primary sealant, the specification does not disclose anything regarding the hot melt

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butyl or polyisobutylene being of the type that is “cured” or “not cured”. Thus, it is suggested to remove from claim 1 “the primary sealant being of the type that is not cured” and from claims 19 and 26 “the hot melt butyl being of the type that is not cured” to overcome the rejection.

Claim Rejections - 35 USC § 102

4. Claims 1, 3, 5, 6, and 14 rejected under 35 U.S.C. 102(b) as being anticipated by Town (U.S. Patent 6,002,521).

Town discloses a method for fabricating an insulating glazing unit. Town teaches the method comprises providing first and second glazing sheets, connecting a spacer (free of sealant) to the first and second glazing sheets using an adhesive such that an outwardly-facing channel is formed between the glazing sheets and the spacer and an insulating chamber is formed inward of the spacer between the glazing sheets, hermetically sealing the insulating chamber by applying a primary sealant into the outwardly-facing channel where the primary sealant continuously extends entirely across the channel from the first glazing sheet to the second glazing sheet, and applying a secondary sealant into the outwardly-facing channel after the primary sealant is applied to form a continuous secondary seal from the first glazing sheet to the second glazing sheet (Figures 1-11 and Column 4, lines 53-57 and 64-67 and Column 8, lines 10-14 and 45-48 and Column 9, lines 46-60 and Column 10, lines 44-57 and Column 11, lines 42-53). Town teaches the primary sealant comprises materials exhibiting good adhesion to metal or plastic spacers including thermoplastic materials (e.g. polyisobutylene) or thermosetting materials (e.g. silicon or polyurethane) (Column 8, lines 56-58).

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It is noted Town teaches the primary sealant is “cured”. However, the use of the term “cured” in Town is interpreted to mean “harden” as the term relates to thermoplastic primary sealants. This interpretation is based on the following: Town discloses using polyisobutylene as the primary sealant (Column 8, lines 56-58). Polyisobutylene is a thermoplastic as evidenced by Battersby (U.S. Patent 3,759,771) at Column 3, lines 71-72 and Column 4, line 7 and Reichert et al. (U.S. Patent 4,994,309) at Column 1, lines 58-61 wherein both Battersby and Reichert et al. disclose polyisobutylene is a thermoplastic material. Town further discloses using silicon or polyurethane as the primary sealant (Column 8, lines 56-58). Silicon and polyurethane sealants are thermosetting as evidenced by the admitted prior art at Page 11, lines 8-10 of the specification wherein the admitted prior art expressly discloses silicon and polyurethane sealant are thermosetting. Thus, as thermoplastic materials “harden” and thermosetting materials “cure” it is clear that when Town groups both thermoplastic and thermosetting materials into a single primary sealant group, the use of the term “cure” to characterize the group as it relates to thermoplastic materials must mean “harden”. **It is noted Battersby, Reichert et al., and the admitted prior art are cited only as evidence of an inherent property of the primary sealant materials disclosed by Town.**

Regarding claims 3, 5, 6, and 14, Town teaches the spacer may be formed of materials well known in the art including metal (Column 8, lines 15-19), the spacer may have a pair of notched corners (Figure 10), and the spacer may carry a desiccant (Column 8, lines 23-25). Town teaches the primary sealant may be hardened/cured prior to applying the secondary sealant (Column 10, lines 56-58). Town teaches the secondary sealant may comprise materials

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exhibiting good moisture resistance such as silicone (thermosetting) resins (a structural sealant) and urethane adhesives (Column 9, lines 5-7).

Claim Rejections - 35 USC § 103

5. Claims 1-3, 5, 6, 14, 19, and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Town in view of Hodek et al. (U.S. Patent 5,655,282).

Town is described in full detail above. Town does not specifically disclose using hot melt butyl as the primary sealant, it being noted Town is not limited to any particular primary sealant and polyisobutylene (i.e. thermoplastic) and polyurethane (i.e. thermosetting) sealants are suggested by Town as exemplary of suitable primary sealants. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the primary sealant taught by Town any of the well known primary sealants in the art such as hot melt butyl as shown for example by Hodek et al. wherein Hodek et al. is exemplary of the alternative use of hot melt butyl, polyisobutylene, and polyurethane as primary sealants, it being noted hot melt butyl has a superior ability to retain insulating gas, and only the expected results, i.e. sealing the glazing unit, would be achieved.

Regarding claim 2, 19, and 26, Town does not specifically disclose using a foam-bodied spacer, it being noted Town teaches the spacer is formed of materials well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the spacer taught by Town well known spacers such as those formed of foam as suggested for example by Hodek et al. as only the expected results would be achieved, e.g. lighter glazing units.

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Hodek et al. disclose an insulating glazing unit. Hodek et al. teach a pair of glass sheets separated by a spacer wherein the spacer is located inward from the perimeter of the glass sheets forming an outwardly-facing channel and an inward, insulating chamber (Figure 10 and Column 3, lines 21-29 and Column 7, lines 60-63). Hodek et al. teach first (154 of Figure 10), i.e. primary, and second (155 of Figure 10), i.e. secondary, sealants applied to the spacer and glass sheets to provide a moisture barrier (Column 7, lines 63-66 and Column 8, lines 24-28). The first sealant may comprise hot melt butyl adhesive (Column 7, lines 55-59), polyisobutylene (Column 11, lines 40-41), or polyurethane (Column 7, lines 48-59), it being noted hot melt butyl has superior gas barrier properties useful for example to better retain insulating gas. The second sealant may comprise a structural sealant made of a thermoset such as silicone (Column 8, lines 24-28). Hodek et al. further teach that it is well known in the art to use both foam and metal spacers carrying a desiccant (Column 4, lines 37-41 and 66-67), and it is known to use a spacer with a pair of notched corners (Figure 1).

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Town as applied to claims 1, 3, 5, 6, and 14 above or Town and Hodek et al. as applied to claims 1-3, 5, 6, 14, 19, and 25-27 above, and further in view of Schlienkamp (U.S. Patent 4,519,962).

Town (and Town and Hodek et al.) as applied above teach all of the limitations in claim 15 except for a specific teaching on using first and second sealant stations comprising first and second application nozzles to apply the sealants, it being noted Town is not limited to any particular method. Schlienkamp discloses a method and system for sealing the edges of insulating-glass panels. The sealing method of Schlienkamp is a continuous process wherein a glass pane is conveyed to a sealing station (Column 3, lines 23-27). A sealing nozzle then

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applies adhesive to the entire perimeter of the glass pane (Column 3, lines 42-44). It would have been well within the purview of one of ordinary skill in the art at the time the invention was made to apply the sealants taught by Town (or Town as modified by Hodek et al.) using multiple sealant stations of the type suggested by Schlienkamp as only the expected results would be achieved.

7. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Town as applied to claims 1, 3, 5, 6, and 14 above or Town and Hodek et al. as applied to claims 1-3, 5, 6, 14, 19, and 25-27 above, and further in view of Battersby (U.S. Patent 3,759,771).

Town (and Town and Hodek et al.) as applied above teach all of the limitations in claims 16 and 17 except for a specific teaching on using a device comprising first and second applicators wherein the second applicator trails that of the first to apply the sealants, it being noted Town is not limited to any particular method. Battersby discloses a method of making an insulating glazing unit (double glazing unit) (Column 1, lines 54-63). Battersby teaches providing a pair of glazing sheets separated by a spacer wherein the spacer (free of sealant) is spaced inwardly from the perimeter of the sheets forming an outwardly facing channel and an inward insulating channel (Figures 1 and 5-7 and Column 2, lines 24-29 and 57-60). Battersby teaches sealing the insulating chamber by simultaneously applying a first and second sealant into the provided outwardly facing channel. The sealants are applied through an applicator with two heads wherein the second applicator head trails the first, thus the second sealant covers the first (Figures 2-4 and Column 2, lines 63-71 and Column 3, lines 1-2 and 11-17 and 40-45).

Battersby teaches that the first and second sealants may be different (Column 4, lines 16-23), and the sealants comprise a wide variety of materials including polyisobutylene, polyurethane, and

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thermosets (Column 3, lines 62-63 and Column 4, lines 7 and 12-13). Battersby teaches that the sealants prevent the entry of dust and/or moisture into the insulating chamber (Column 2, lines 30-34). Battersby further teaches that the spacer may be formed of metal, plastics, or wood and may include a desiccant (Column 2, lines 40-44), and the spacer may have notched corners between the glazing sheets and the spacer with the first sealant applied in the notched corners (Figures 2-6 and Column 2, lines 45-56).

Regarding claim 16, it would have been well within the purview of one of ordinary skill in the art at the time the invention was made to apply the sealants taught by Town (or Town as modified by Hodek et al.) using a device comprising first and second applicators wherein the second applicator trails that of the first as suggested by Battersby as only the expected results would be achieved. Regarding claim 17, it is noted that in the method and apparatus of Battersby a retractable applicator nozzle is not necessary. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a retractable first nozzle if the nozzle would disturb the application of the second sealant.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Town as applied to claims 1, 3, 5, 6, and 14 above, and further in view of Hodek et al. (U.S. Patent 5,655,282).

Town teaches all of the limitations in claim 2 except for a specific disclose of using a foam-bodied spacer, it being noted Town teaches the spacer is formed of materials well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the spacer taught by Town well known spacers such as those formed of foam as suggested for example by Hodek et al. as only the expected results would be achieved, e.g. lighter glazing units. Hodek et al. is described above in full detail.

Response to Arguments

9. Applicant's arguments with respect to claims 1-3, 5, 6, 14-17, 19, and 25-27 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues, "Town specifically teaches that at col. 8, lines 45-62, particularly lines 59-62 that the first sealant is said to provide the desired properties once cured." and "Town does not disclose the use of the non-curable sealants in the location recited in the claims."

As noted above, the use of the term "cured" in Town is interpreted to mean, "harden" as the term relates to thermoplastic primary sealants. This interpretation is based on the following: Town discloses using as the primary sealant for example polyisobutylene, silicon, or polyurethane. Polyisobutylene is a thermoplastic as evidenced by Battersby and Reichert et al., and silicon and polyurethane are thermosetting as evidenced by the admitted prior art. Thus, as thermoplastic materials "harden" and thermosetting materials "cure" it is clear that when Town groups both thermoplastic and thermosetting materials into a single primary sealant group, the use of the term "cure" to characterize the group as it relates to thermoplastic materials must mean "harden".

Applicant further argues, "Further, Town does not suggest the use of hot melt butyl because non-curable, non-structural sealants such as hot melt butyl cannot function to hold a film taut in the manner required by Town."

Applicants have not provided evidence to support this position. Furthermore, as noted above Town discloses both thermoplastic and thermosetting primary sealants including polyisobutylene and polyurethane. Hodek et al. are exemplary of well know primary sealants such as hot melt butyl, polyisobutylene, and polyurethane. Hodek et al. further notes hot melt

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butyl has a superior ability to retain insulating gas. Thus, at a minimum it would have been obvious to use as the primary sealant in Town hot melt butyl, polyisobutylene, or polyurethane as each are known alternative primary sealants in the art as shown for example by Hodek et al. wherein only the expected results, i.e. sealing the glazing unit, would be achieved.

Conclusion


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John L. Goff whose telephone number is (571) 272-1216. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John L. Goff



JEFF H. AFTERGUT
PRIMARY EXAMINEE
GROUP 1300